REMARKS

In the Office Action dated November 23, 2004, claims 2, 3, 27, 28, 35, 36, and 44-49 were rejected under 35 U.S.C. § 102 over U.S. Patent No. 5,941,313 (Arizmendi); claim 5 was rejected under § 103 over U.S. Patent No. 3,712,376 (Owen) in view of U.S. Patent No. 6,056,835 (Miyake); claim 6 was rejected under § 103 over U.S. Patent No. 5,131,470 (Miszewski) in view of Miyake; claim 7 was rejected under § 103 over U.S. Patent No. 4,122,899 (Brieger) in view of Miyake, and over U.S. Patent No. 6,454,001 (Thompson) in view of Miyake; claims 8 and 9 were rejected under § 103 over U.S. Patent No. 4,042,019 (Henning) in view of Miyake; claims 10, 11, and 39 were rejected under § 103 over U.S. Patent No. 4,081,031 (Mohaupt) in view of Miyake; claims 30-32 were rejected under § 103 over Arizmendi in view of Mohaupt; claim 33 was rejected under § 103 over Arizmendi in view of U.S. Patent No. 6,474,414 (Gonzalez); claim 38 was rejected under § 103 over Owen in view of Miyake and Mohaupt; claims 40 and 41 were rejected under § 103 over U.S. Patent No. 3,380,528 (Timmons) in view of U.S. Patent No. 3,713,486 (Meitzen) and Miyake; and claims 42 and 43 were rejected under § 103 over U.S. Patent No. 6,056,059 (Ohmer) in view of Mohaupt.

Applicant acknowledges the indication that claim 34 has been allowed.

The Office Action indicated that the rejection of claim 37 has been withdrawn, with no new rejection asserted against claim 37. Allowance of claim 37 is respectfully requested.

Independent claim 2 was rejected as being anticipated by Arizmendi. Applicant respectfully disagrees with the assertion in the Office Action that Arizmendi discloses an apparatus comprising an element formed of a superplastic material to perform a predetermined downhole test. Arizmendi describes a sheath body 22 that is a relatively thin-walled tubular member formed from stainless steel, titanium, or other material having sufficient strength and elasticity to bend without fracturing. Arizmendi, 4:29-33. However, the fact that a sheath body is elastic to enable it to bend without fracturing does not make it superplastic. A material does not automatically become superplastic – the material has to be processed in a specific manner to achieve superplasticity. As taught by Miyake, one of the references cited by the Office Action, there are several alternative techniques for making a material superplastic. *See* Miyake, 1:13-64, 7:19-10:57. There is absolutely no teaching whatsoever within Arizmendi that special

processing is performed on the various materials for the sheath body 22 to make the material superplastic.

The Office Action responded to the above argument by asserting that "applicant does not claim a specific process by which a material can be made superplastic nor does the specification provide any basis for this argument." 11/23/2004 Office Action at 11. It is true that claim 1 does not claim a process of making a material superplastic – however, that point does not change the fact that Arizmendi still fails to disclose a *superplastic* material. The titanium or other material of Arizmendi identified by the Office Action is *not* a superplastic material. Therefore, clearly, Arizmendi does not disclose an element formed of a superplastic material to perform a predetermined downhole task, in combination with a component including a seal engagable with the element.

With respect to independent claim 3, Arizmendi also does not disclose the combination of an element formed of a *superplastic* material to perform a predetermined downhole task, and a component including an anchor actuatable by the element.

Claims dependent from claims 2 and 3 are allowable for at least the same reasons as corresponding independent claims. Moreover, with respect to dependent claims 44-49, some characteristics of a superplastic material are expressly recited to overcome the teachings of Arizmendi. There clearly is absolutely no teaching in Arizmendi that any of its materials exhibit the characteristics expressly recited in claims 44-49. The Office Action stated that the recited features of claims 44-49 are inherent properties of the materials listed in Arizmendi. 11/23/2004 Office Action at 2. "To establish inherency, the extrinsic evidence 'must make clear that the missing descriptive matter is *necessarily* present in the thing described in the reference, and that it would be so recognized by persons of ordinary skill.'" M.P.E.P. § 2112 (8th ed., Rev. 2), at 2100-54. The materials described in Arizmendi do not *necessarily* have to have the characteristics recited in claims 44-49. The titanium, stainless steel, or other material listed in Arizmendi would *not* have the recited characteristics if special processing were not performed to make the materials superplastic.

Claim 30, which depends indirectly from claim 2, was rejected as being obvious over Arizmendi and Mohaupt. The Office Action conceded that Arizmendi does not disclose a heating device to heat the superplastic material to a temperature such that the element exhibits superplastic behavior. 11/23/2004 Office Action at 7. However, the Office Action relied upon Mohaupt as teaching the heating device. *Id.* It is respectfully submitted that even if Arizmendi and Mohaupt can be combined, the hypothetical combination of Arizmendi and Mohaupt would not teach or suggest all elements of claim 30. Specifically, neither Arizmendi nor Mohaupt teaches or suggests a heating device to heat a superplastic material to a temperature such that the element exhibits superplastic behavior. Arizmendi has absolutely no need for such a heating device, because its sheath body 22 is not formed of a superplastic material and does not need to be heated to a temperature such that the sheath body 22 exhibits superplastic behavior. Mohaupt teaches the use of a chemical generator mixture 28 that is combusted to form a flame that traverses the walls of a housing 24, which can be made from aluminum tubing or a rigid, plastic or elastomeric material. The flame is designed to burst a rigid material, cause failure of the thinnest section of a plastic material, or to cause swelling of an elastomeric material to cause fluids in the wellbore surrounding the system to be rapidly displaced outwardly through perforations in a well casing. Mohaupt, 4:1-19. There is absolute no basis to construe the chemical generator mixture 28 as a heating device to heat a superplastic material to a temperature such that the element exhibits superplastic behavior. The Mohaupt heat generator causes bursting, failure or swelling of a housing to cause rapid displacement of surrounding fluid. That teaching clearly does not provide any suggestion of heating a superplastic material such that it exhibits superplastic behavior. Therefore, the hypothetical combination of Arizmendi and Mohaupt, even if proper, fails to teach or suggest the subject matter of claim 30.

Moreover, there simply did not exist any motivation or suggestion to combine the teachings of Arizmendi and Mohaupt to achieve the claimed invention. As noted above, there simply did not exist any need whatsoever in Arizmendi of heating the sheath body 22 for the sheath body 22 to exhibit plastic behavior. Also, there is no reason to incorporate the teachings of Mohaupt that relate to bursting, swelling, or failing of a housing to displace fluids into the seal mechanism described in Arizmendi. For the foregoing reasons, a *prima facie* case of

obviousness has not been established with respect to claim 30. *See* M.P.E.P. § 2143, at 2100-129.

Claim 33, which depends from claim 2, was rejected as being obvious over Arizmendi and Gonzalez. It is respectfully submitted that the hypothetical combination of Arizmendi and Gonzalez does not teach or suggest all elements of claim 33. Specifically, neither Arizmendi nor Gonzalez teaches an element (formed of a superplastic material) that comprises a plug to block fluid flow in a bore of the conduit. As conceded by the Office Action, Arizmendi does not disclose such an element that comprises the plug. 11/23/2004 Office Action at 8. Gonzalez also fails to disclose such an element, as Gonzalez teaches a molten metal plug that expands upon solidification to form a pressure-resistant seal in a tubular. In other words, the seal of Gonzalez is formed by *melting* a metal, with the seal formed after solidification of the molten metal. This is clearly different from an element formed of a *superplastic material* that comprises a plug to block fluid flow. Thus, as the hypothetical combination of Arizmendi and Gonzalez fails to teach or suggest all elements of claim 33, it is respectfully submitted that a *prima facie* case of obviousness has not been established with respect to claim 33.

Independent claim 5 was rejected as being obvious over Owen and Miyake. The obviousness rejection of independent claim 5 over Owen and Miyake is defective. Although Owen describes a liner that can be used as a sand screen, Owen makes no mention whatsoever of using a superplastic material in its sand screen. Miyake describes a superplastic material, but there is absolutely no suggestion anywhere within Miyake of using its superplastic material to form an element that is part of a sand screen. The Office Action does not cite to any other knowledge that would have been possessed by persons of ordinary skill in the art to provide the necessary motivation or suggestion to combine the reference teachings.

The Office Action stated that it would have been obvious to have modified Owen to be made from a superplastic material as taught by Miyake "in order to have formed the element from the material that was capable of being subjected to expanding without failure (1:5-10)." 11/23/2004 Office Action at 3. Further, the Office Action stated that "[o]ne would have been motivated to make such a combination because an element that was more versatile and less prone to failure would have been obtained, as taught by Miyake et al. (36:1-20)." *Id.* The only suggestion of forming a sand screen out of a superplastic material is provided by the disclosure

of the present invention. There is absolutely no suggestion whatsoever in the prior art of combining the teachings of Owen and Miyake. Therefore, the Office Action has relied upon impermissible hindsight to use the disclosure of the present invention to piece together un-related elements of prior art references.

The Office Action further stated that, "Miyake was used merely to supply a teaching that aluminum was a known superplastic material as admitted by applicant beginning in line 30 of page 3 of the specification of the instant application." 11/23/2004 Office Action at 12. It is entirely improper to use the disclosure of the present invention (on page 3, at line 30, of the present specification) as an admission of prior art. Page 3, at line 30, of the present specification teaches that a superplastic material may be a metal, which includes aluminum. However, the present specification further teaches that a superplastic material has certain characteristics, which are set forth on page 4 of the present specification. Aluminum by itself is not superplastic – aluminum must be specially processed to achieve superplasticity. These teachings of the present application do not constitute admissions of prior art. Moreover, to the extent that the Office Action is basing its obviousness rejection on the fact that any aluminum is known to have superplastic characteristics, that assumption is erroneous.

In view of the foregoing, it is respectfully submitted that there existed no motivation or suggestion to combine the teachings of Owen and Miyake. A *prima facie* case of obviousness has not been established against claim 5 (or its dependent claim 38).

Independent claim 6 was rejected as being obvious over Miszewski in view of Miyake. Claim 6 recites an apparatus for use in the wellbore that comprises an element formed of a superplastic material to perform a predetermined downhole task, and a shock absorber that includes such an element. The Office Action cited to the shock absorber disclosed in Miszewski, which includes damping coils made of aluminum or stainless steel. 11/23/2004 Office Action at 4. There is absolutely no teaching whatsoever that the aluminum damping coils in the shock absorber of Miszewski have a superplastic material. The Office Action cited Miyake as teaching the modification of the aluminum damping coils of the shock absorber in Miszewski into superplastic damping coils.

However, there simply did not exist any motivation or suggestion to combine the teachings of Miszewski and Miyake. There is absolutely no indication whatsoever in Miszewski

that its shock absorber would benefit from including an element formed of a superplastic material. Miszewski does teach that its shock absorber has damping coils made of aluminum. However, aluminum is not a superplastic material unless it is specially processed to become a superplastic material. The reading of any aluminum as being a superplastic material is clearly erroneous. Miyake also does not teach that any aluminum is a superplastic material. Miyake teaches that aluminum has to be specially processed to become a superplastic material. However, except for the teachings of the disclosure of the present invention, there was no other teaching or suggestion of any desirability to incorporate a superplastic material into the shock absorber of Miszewski. In view of the foregoing, it is respectfully submitted that claim 6 is not obvious over Miszewski and Miyake. A *prima facie* case of obviousness has thus not been established against claim 6.

Independent claim 7 was rejected as being obvious over either Brieger in view of Miyake or Thompson in view of Miyake. The obviousness rejections of independent claim 7 over Brieger and Miyake and over Thompson and Miyake are defective. Although Brieger describes a shear pin, Brieger makes no mention whatsoever of using a superplastic material in its shear pin. Similarly, although Thompson describes a shear sub, Thompson makes no mention whatsoever of using a superplastic material in its shear sub. Miyake describes a superplastic material, but there is absolutely no suggestion anywhere within Miyake of using its superplastic material to form an element that is part of a releasable connector mechanism. The Office Action does not cite to any other knowledge that would have been possessed by persons of ordinary skill in the art to provide the necessary motivation or suggestion to combine the reference teachings. The Office Action cited to the fact that Brieger discloses that its shear pin can be made of aluminum, and thus, that would be suggestive of a superplastic material. That is clearly not the case, as the presence of aluminum does not automatically suggest a superplastic material. The same rationale applies to Thompson. Therefore, a *prima facie* case of obviousness has not been established against claim 7.

Independent claim 8 was rejected over the combination of Henning and Miyake. The same rationale was provided to reject claim 8 over Henning and Miyake. The Office Action stated that Henning discloses an element formed of aluminum, and thus, that would be the suggestion needed to combine Henning and Miyake to achieve the claimed combination. As

discussed above, such rationale is clearly erroneous. A *prima facie* case of obviousness has thus not been established with respect to claim 8 (or its dependent claim 9).

Independent claims 10 and 11 were rejected as being obvious over Mohaupt in view of Miyake. The rationale for combining Mohaupt with Miyake is based on the fact that Mohaupt discloses an element that is formed from aluminum. As explained above, this basis for combining a reference with Miyake is clearly erroneous. A *prima facie* case of obviousness has thus not been established with respect to claims 10 and 11 (or dependent claim 39).

Independent claim 40 was rejected as being obvious over Timmons, Meitzen, and Miyake. The rationale underlying the rejection of claim 40 over Timmons, Meitzen, and Miyake is that Timmons discloses a fishing tool with an expandable element, Meitzen discloses anchoring devices with slips that include aluminum, which provided the hook to bring Miyake into the combination. The use of aluminum as the motivation to incorporate the teachings of Miyake into Timmons and Meitzen is clearly erroneous. A *prima facie* case of obviousness has thus not been established with respect to claim 40 (or its dependent claim 41).

Independent claim 42 was rejected as being obvious over Ohmer in view of Mohaupt. It is respectfully submitted that no motivation or suggestion existed to combine the teachings of Ohmer and Mohaupt. Ohmer teaches the use of a post-forming tool deployed into a branching sub to extend outlet members of the branching sub outwardly. The forming tool applies pressure to perform the deformation of the branching sub outlets. There is absolutely no indication of any desirability to incorporate a heating device to heat an element formed of a superplastic material to a temperature such that the element exhibits superplasticity. Therefore, no motivation existed to combine the teachings of Ohmer and Mohaupt. A *prima facie* case of obviousness has not been established against claim 42 (or its dependent claim 43).

All claims are in condition for allowance, which action is respectfully requested. The Commissioner is authorized to charge any additional fees and/or credit any overpayment to Deposit Account No. 20-1504 (SHL.0102US).

Respectfully submitted,

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